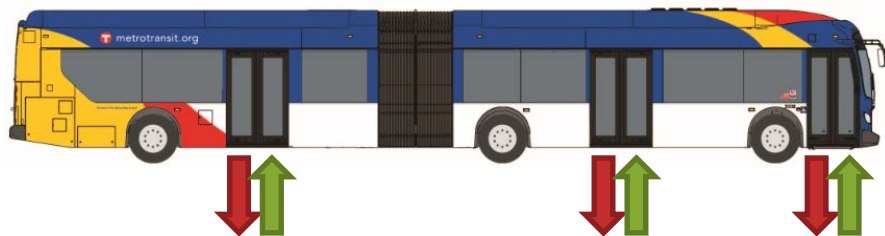
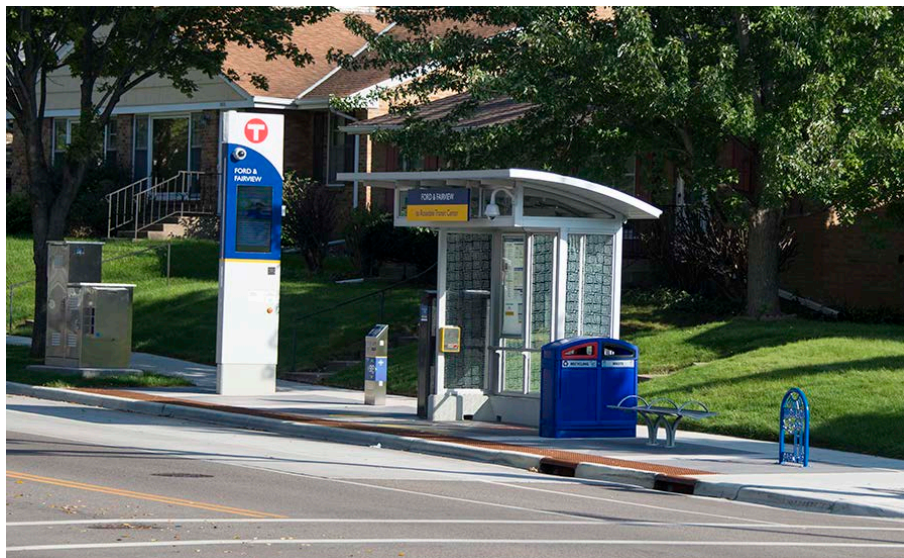


# D Line Rapid Bus Project Planning

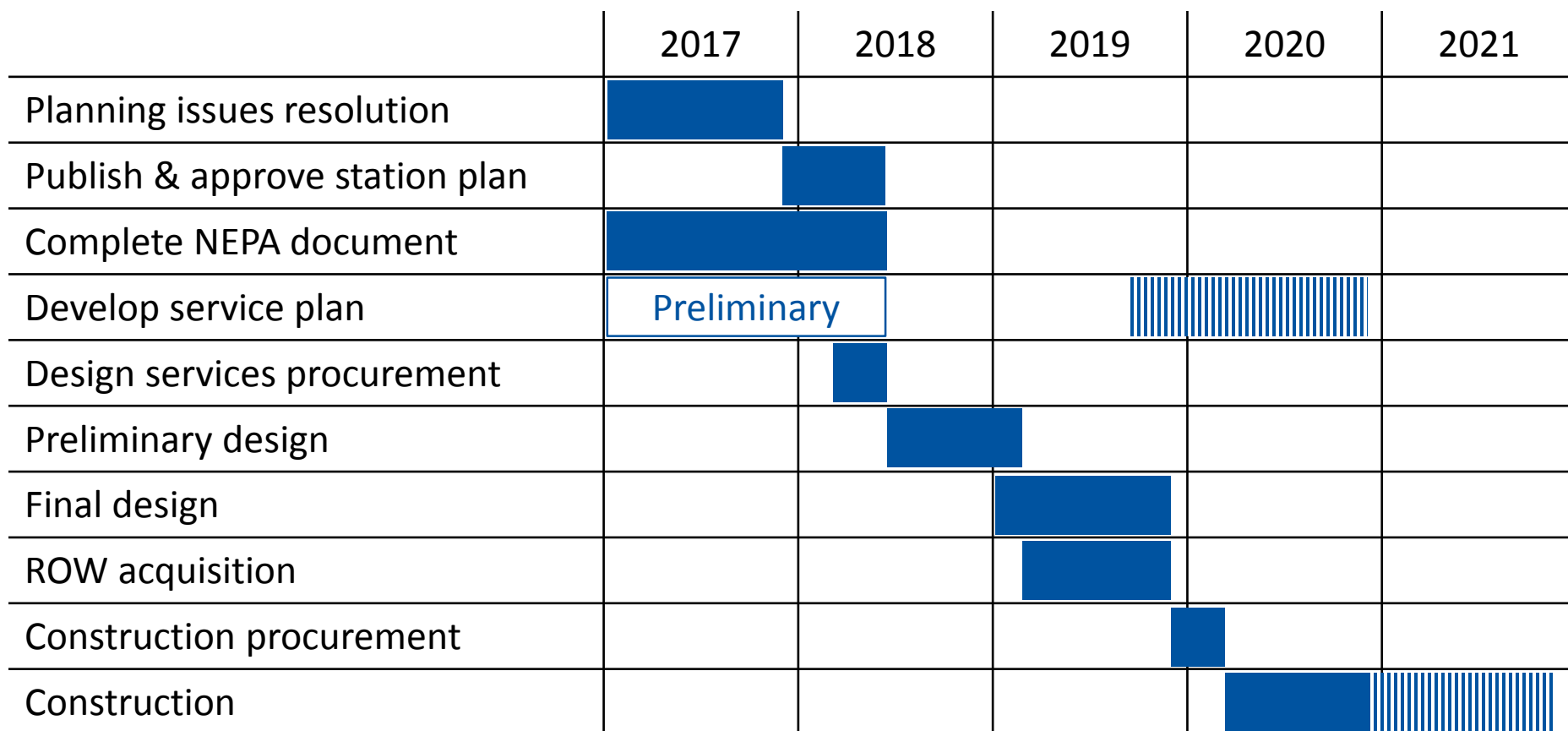
City of Richfield Transportation Commission  
July 12, 2017

Katie Roth, Project Manager  
Scott Janowiak, Planner  
BRT/Small Starts Project Office



- Substantially replace Route 5
- 18.2 miles (about 2 mi. in Richfield)
- Service every 10 minutes, 20-25% faster than Route 5
- Approximately 50 stations
- More comfortable
  - Rapid bus style shelters with heat, light, security features, signage
  - Larger buses
- Improved travel time
  - Pre-boarding fare payment
  - All-door boarding
  - Transit signal priority
- 2030 daily ridership forecast with rapid bus improvements: **23,500**

# Project Schedule



*Assumes engineering funds are identified mid-2018; construction funds identified mid-2019  
Revenue service to begin following construction & testing*

- Planning objective: Approved *D Line Station Plan*
  - What intersection?
  - What intersection quadrant?
  - How was location determined?
- Issue-based approach
  - Known locations
    - Portland & 66th, Portland & 77th
  - Unresolved locations
    - Portland & 70th/73rd

## Station Plan: Penn & Dowling

This station will serve the intersection of Penn Avenue and Dowling Avenue. This location will have unique station spacing as a result of surrounding land uses. The Penn & 43rd Avenue station is located about 0.65 mile to the north, a longer distance than typical due to the disruption of the street grid from the Crystal Lake Cemetery. The Penn & 36th Avenue station is about 0.25 mile to the south, a shorter distance than typical to provide transit access for strong transit demand between Lowry Avenue and Dowling Avenue. Modest ridership surrounding the Penn & Dowling station reflects that transit predominantly serves single-family residential land uses in this area.

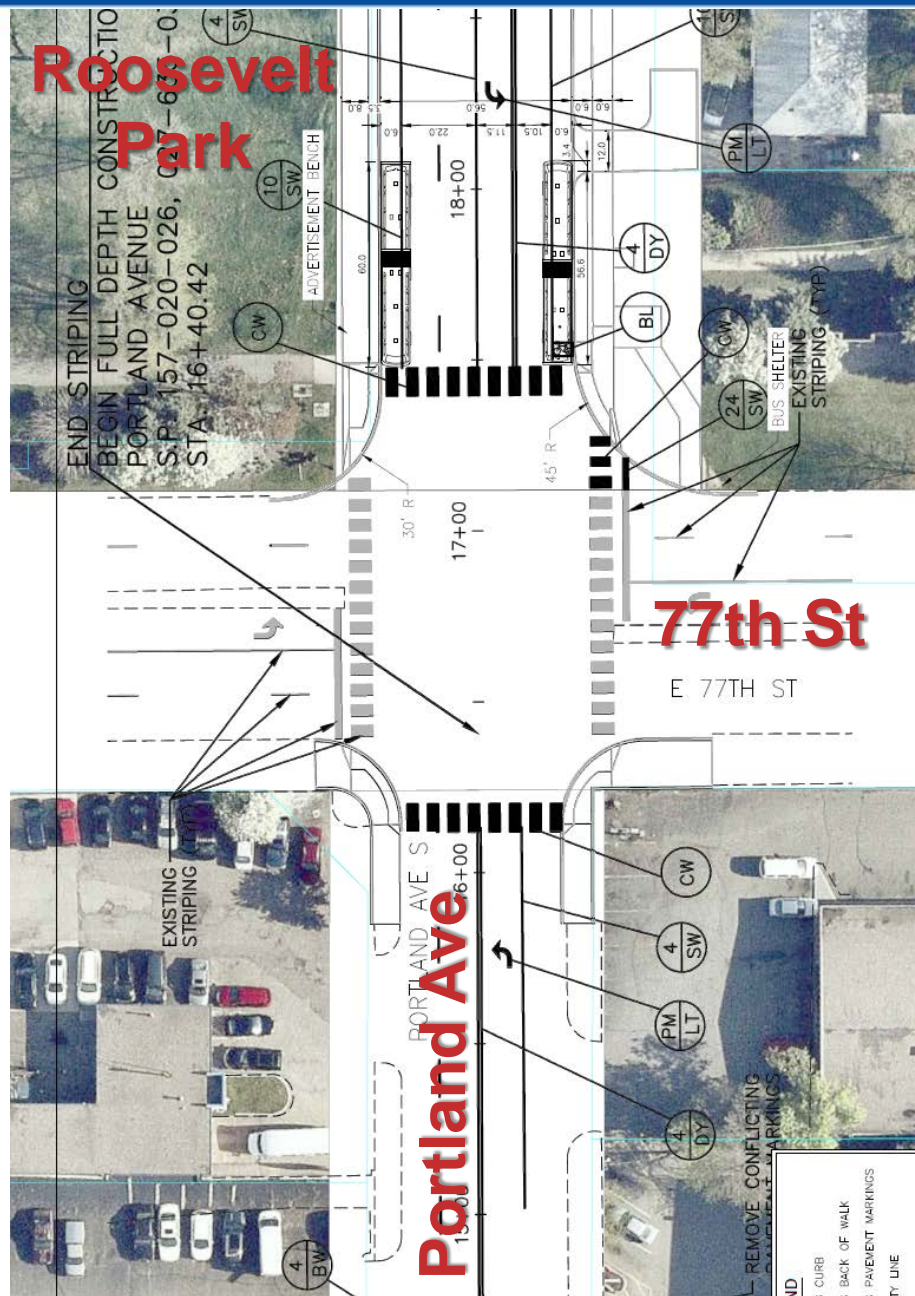
Table 1: Station Plan Summary – Penn & Dowling

Penn & Dowling	
Station Characteristic	Planned Condition*
CORE STATION PLAN	<b>Intersection Location</b> Penn & Dowling Provides adequate station spacing and transit access to northern portion of Penn Avenue corridor.
	<b>Platform Location</b> SB: Nearside (NW corner) SB platform must be sited nearside due to existing NB constraints and limited roadway width. A bus stop currently exists at this location. NB: Nearside (SE corner) Crystal Lake Cemetery limits feasibility of farside platform. A bus stop currently exists at this location.
	SB: Install new shelter No shelter currently present. Will install new shelter with enhanced amenities.

Figure 1: Station Layout – Penn & Dowling







- Portland Avenue reconstruction
  - Completed 2015-2016
  - Portland & 67th to 77th
- Planned Portland Avenue bike-ped improvement
  - Planned 2020
  - Portland & 60th to 66th
- Roundabout at Portland & 66th

# Richfield D Line Planning Considerations



- Connecting transit service
  - Route 515 at 66th; Route 540 at 77th
- Ridership
  - About 95 boardings/day at 66th; 110 boardings/day at 77th
- Spacing
  - About 1.4 miles between 66th & 77th
- Land use
- Existing roadway





# Portland & 66th



- Northbound: Nearside
  - Adequate length available for standard 60-ft platform
- Southbound: Nearside
  - Adequate length available for standard 60-ft platform
- Roundabout
  - Platform design under 1 and 2 lane concepts
  - Southbound farside considerations



## Legend

General platform location



Existing bus stop

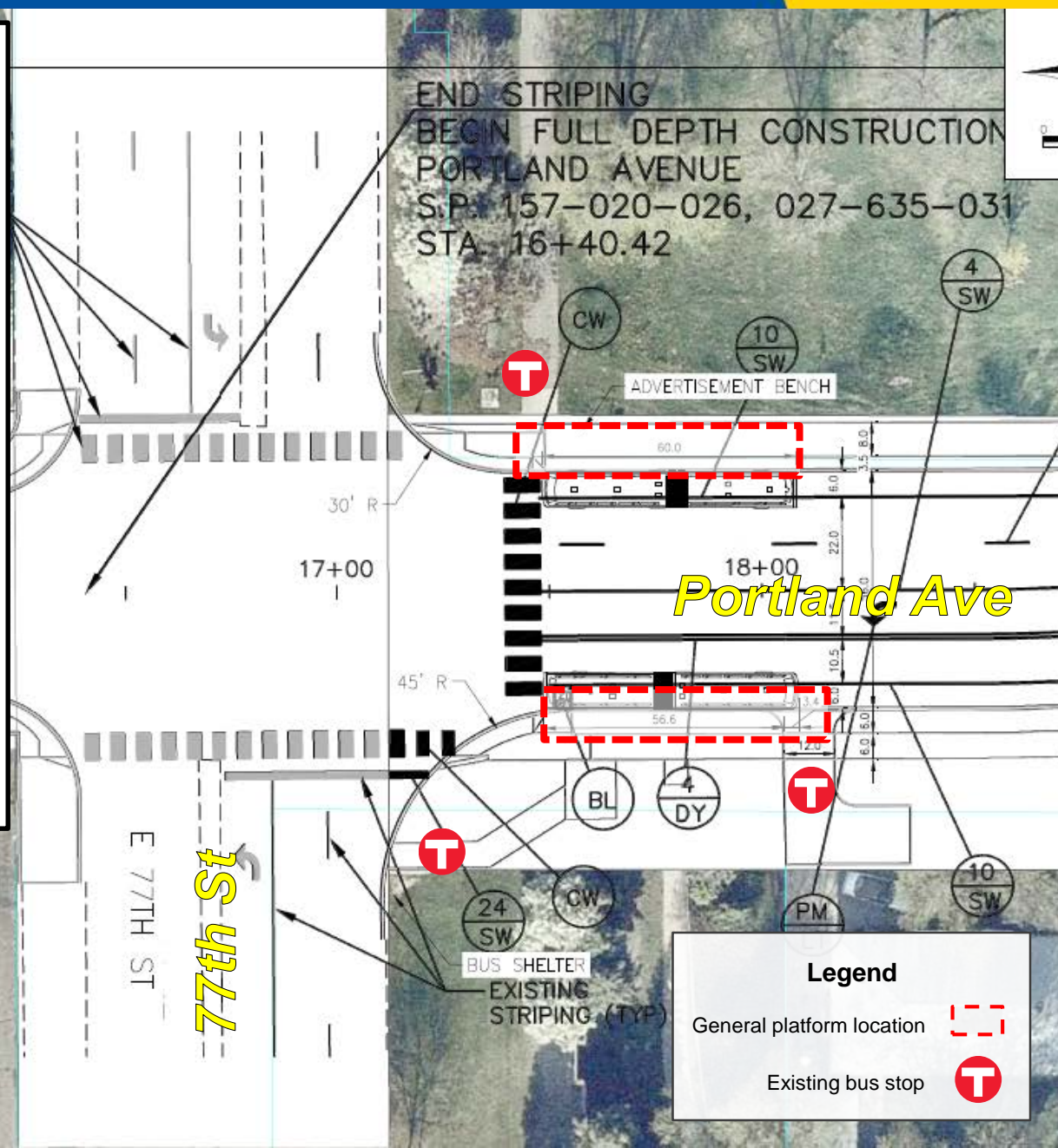




# Portland & 77th



- Northbound: Farside
  - Increases potential for TSP benefit and decreases transit delay
  - Adequate length available for standard 60-ft platform
- Southbound: Nearside
  - Driveway access farside limits available platform length
- Recent reconstruction
  - Ongoing coordination of potential platform designs
  - Identify multi-modal tradeoffs under design scenarios





- Between Portland & 66th and Portland & 77th
  - 1 or 2 stations?
  - Appropriate intersection location?
  - Intersection quadrant constructability?
- Initial proposal: single station at 73rd
  - Compared to 70th, provides access at higher ridership location
  - Stations at both 70th and 73rd result in less than 0.5 mi. spacing in lower ridership area

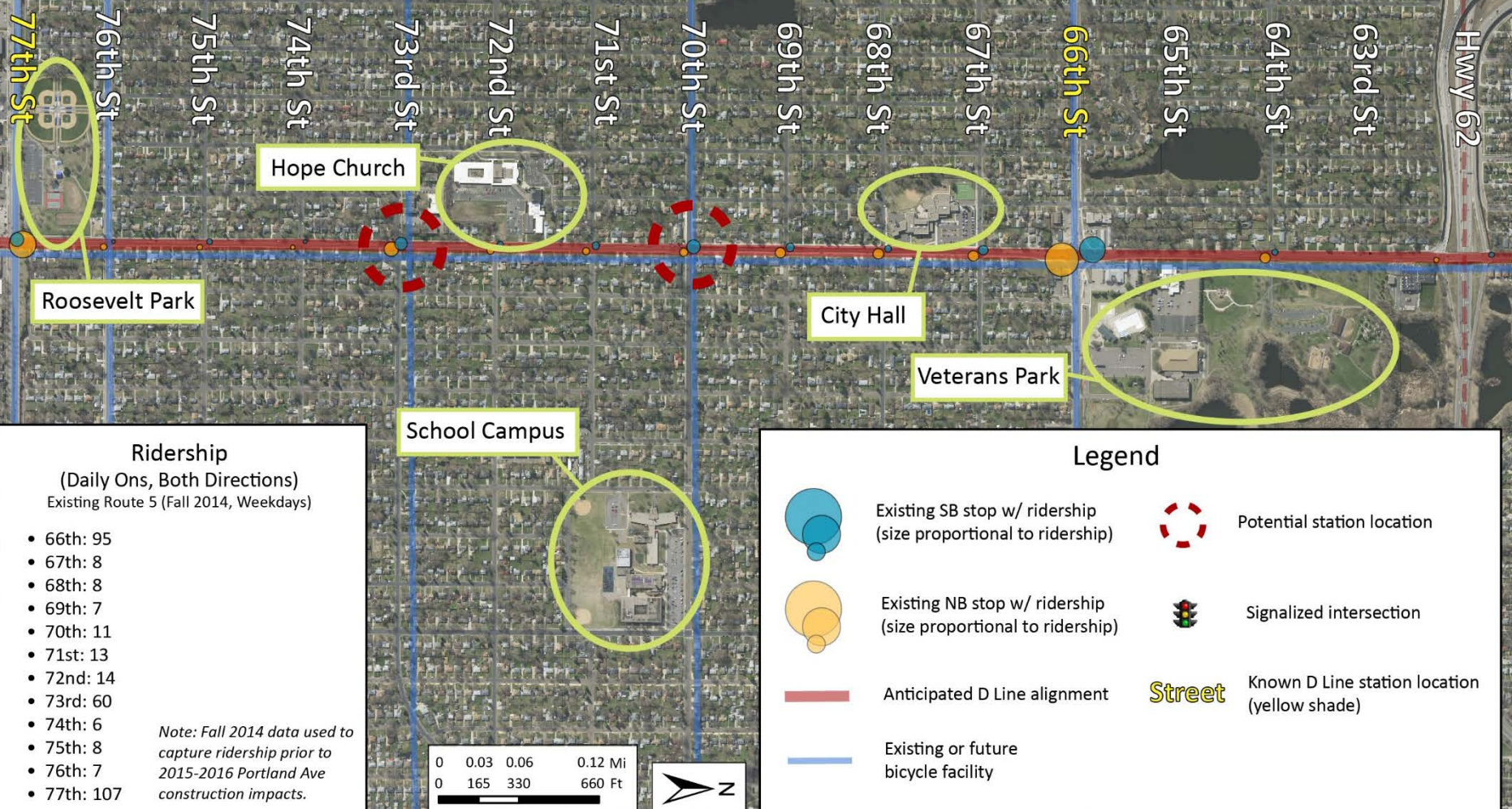
About 660'  
or 0.125 mi.

About 2 miles within City of Richfield; about 1.375 miles between 77th and 66th Sts

About 2,640' or 0.5 mi between 77th and 73rd Sts

About 1,980' or 0.375 mi between  
70th and 73rd Sts

About 2,640' or 0.5 mi between 70th and 66th Sts





# Station Location: Portland & 70th/73rd



- Portland & 70th
  - Signalized
  - Residential (single-family)

- Portland & 73rd
  - Unsignalized
  - Residential (single-family and multi-family)





- July and August
  - Connections and conversations
    - VEAP
    - Hope Church
    - Others?
  - Activities
    - Pop-up outreach, tabling
      - City Hall
      - Hope Church programming
      - National Night Out
      - Summer Concert Series
      - Others?

# metrotransit.org/d-line-project

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BRT/Small Starts Project Office



City Council Work  
Session

July 25, 2017





# Health and transportation

## **Research Results on Land Use, Transportation, and Community Design**

(For slides related to walking/biking to school, please see the set titled  
School Environment and Active Transportation to School)

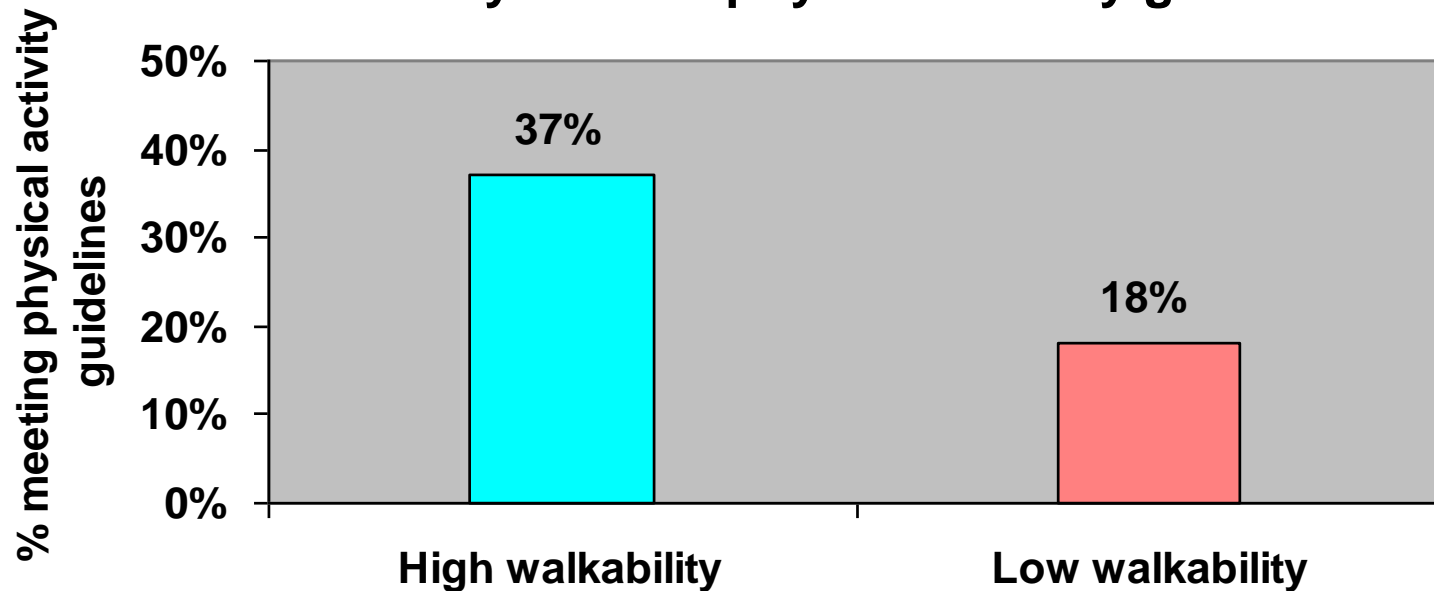
Active Living Research  
[www.activelivingresearch.org](http://www.activelivingresearch.org)

A national program of the Robert Wood Johnson Foundation

Any of the slides contained in this set are available for public use. If you have  
comments or questions about a particular slide, please contact Debbie Lou at  
[dlou@projects.sdsu.edu](mailto:dlou@projects.sdsu.edu)

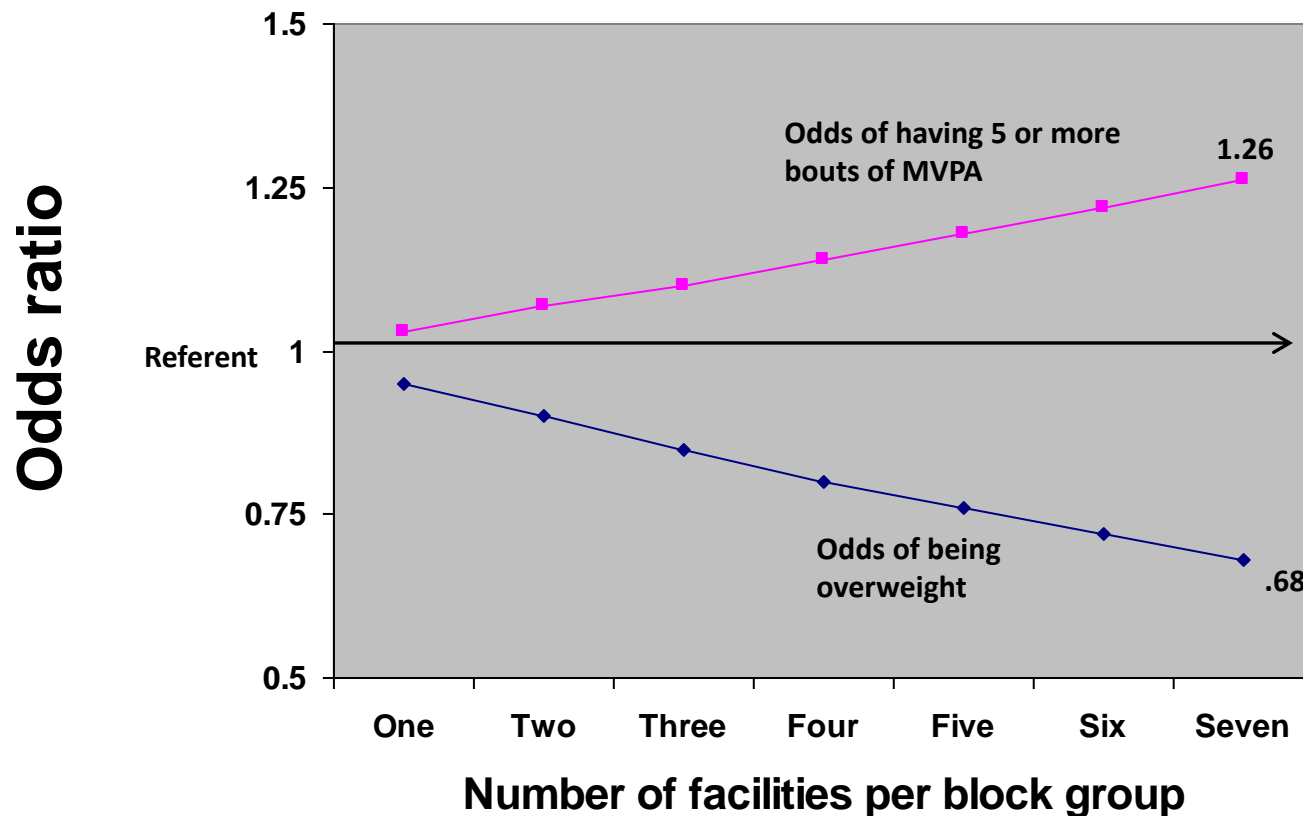
A study of 357 Atlanta adults using accelerometer data found people who live in walkable neighborhoods are more likely to meet recommended daily levels of physical activity.

### **Residents of walkable neighborhoods were more likely to meet physical activity guidelines**



Frank LD, Schmid TL, Sallis JF, Chapman J, Saelens BE. Linking objectively measured physical activity with objectively measured urban form. Findings from SMARTAQ. *American Journal of Preventive Medicine* 2005; 28(2S2):117-125.

**A national study of US adolescents (N=20,745)\* found a greater number of physical activity facilities is directly related to increased physical activity and inversely related to risk of overweight**



\*using Add Health data



# Pedestrian Plan- 69<sup>th</sup> Street

**Sidewalk on 69<sup>th</sup> Street is consistent with:**

- Comprehensive Plan
- Sidewalk Policy
- Complete Streets Policy
- Guiding Principles

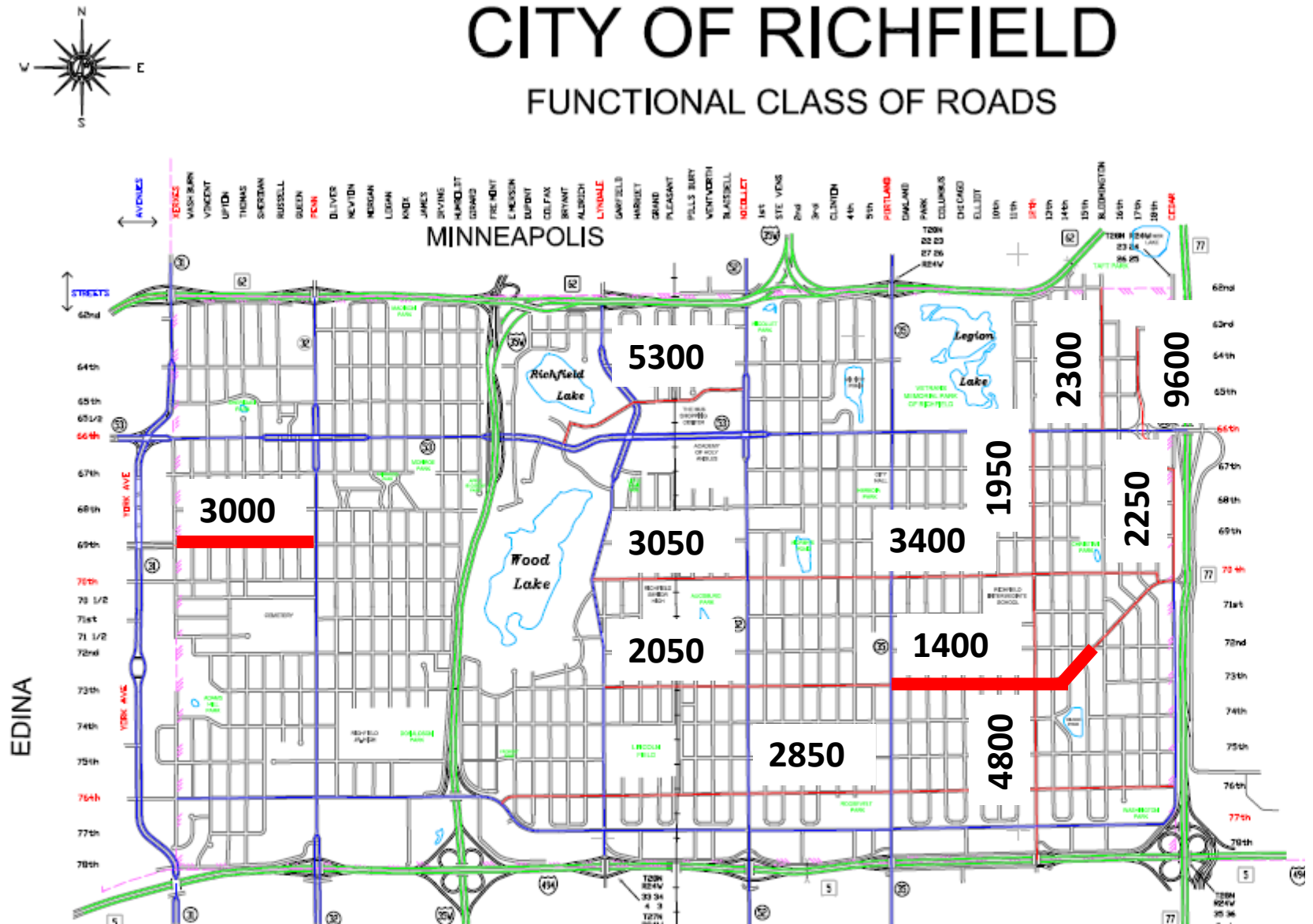


# Pedestrian Plan - 67th

## Street

### CITY OF RICHFIELD

#### FUNCTIONAL CLASS OF ROADS



# Pedestrian Plan- 69<sup>th</sup>

Car crashes rank among the leading causes of death in the United States



## Impact Speed and a Pedestrian's Risk of Severe Injury or Death

September 2011

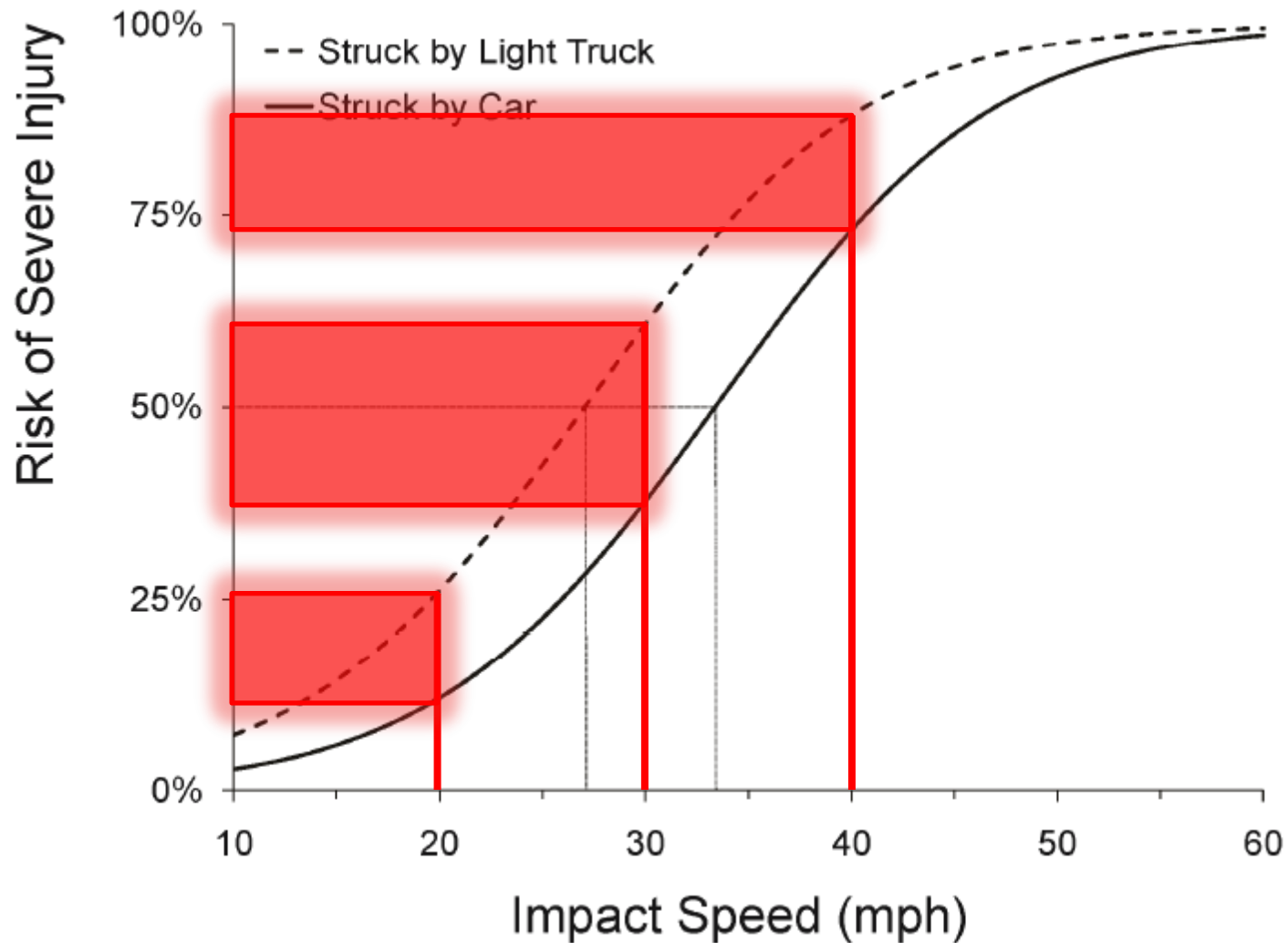


607 14th Street, NW, Suite 201 | Washington, DC 20005 | [AAAFoundation.org](http://AAAFoundation.org) | 202-638-5944





# Safe Speeds

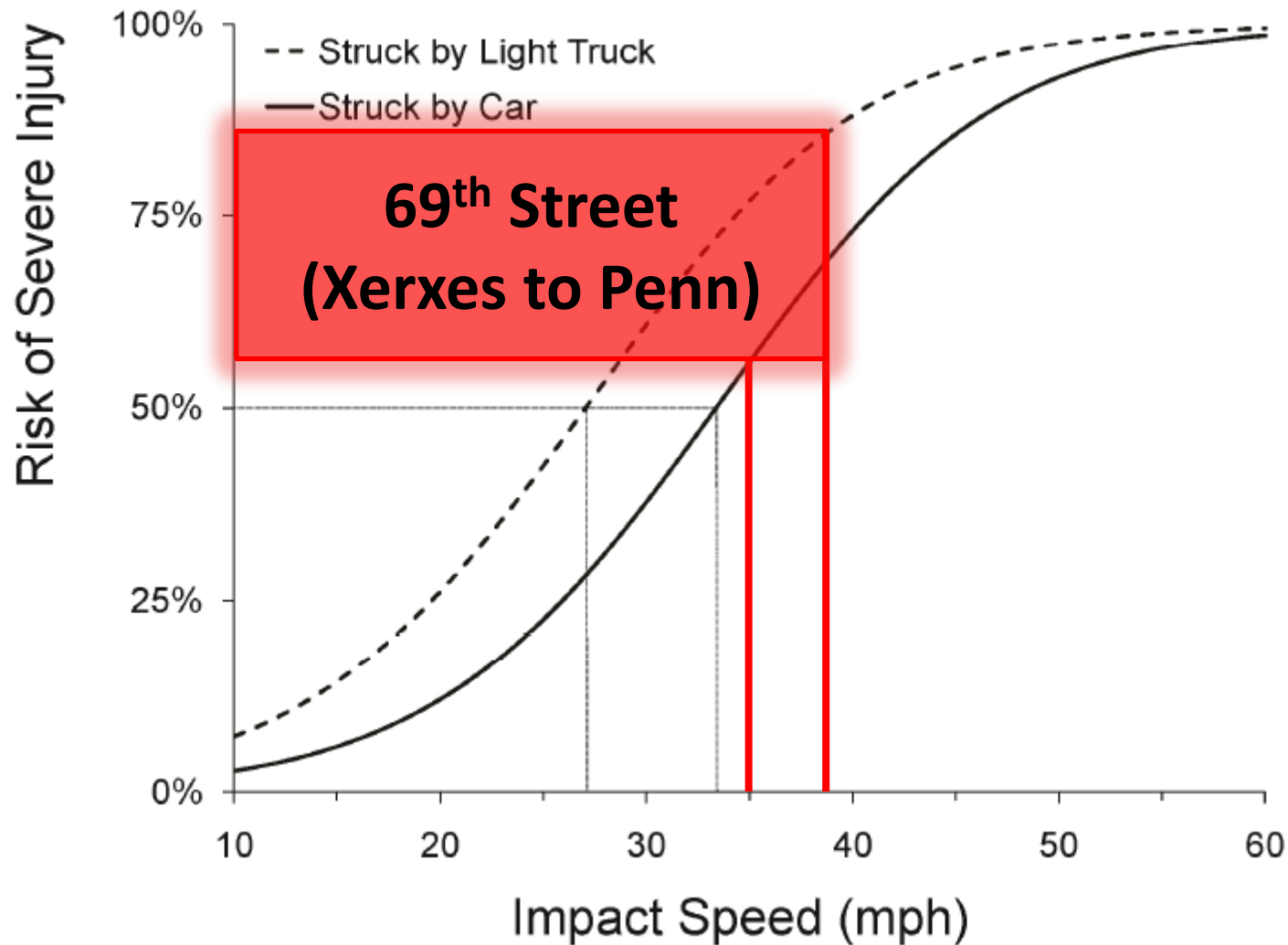


# 69<sup>th</sup> Street - Before Conditions

- ADT: 3000 vpd
- Speeds: 85% speeds 35-38 mph (Posted 30)
- Cross Section: 36' roadway in 60' ROW



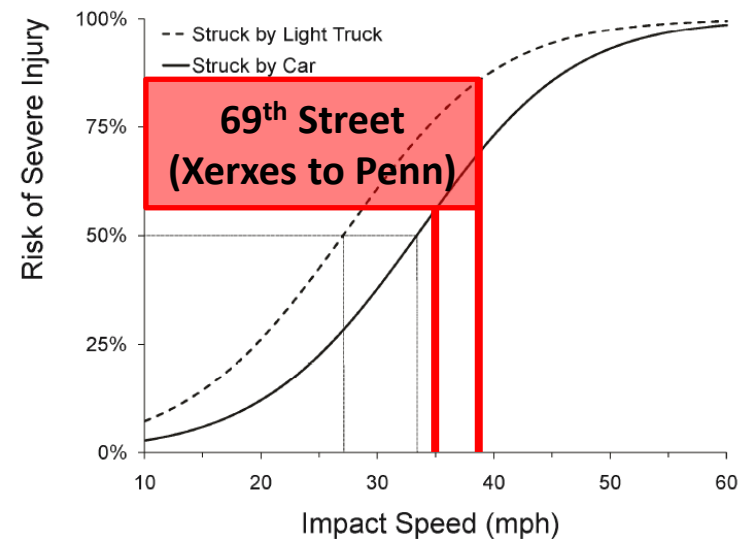
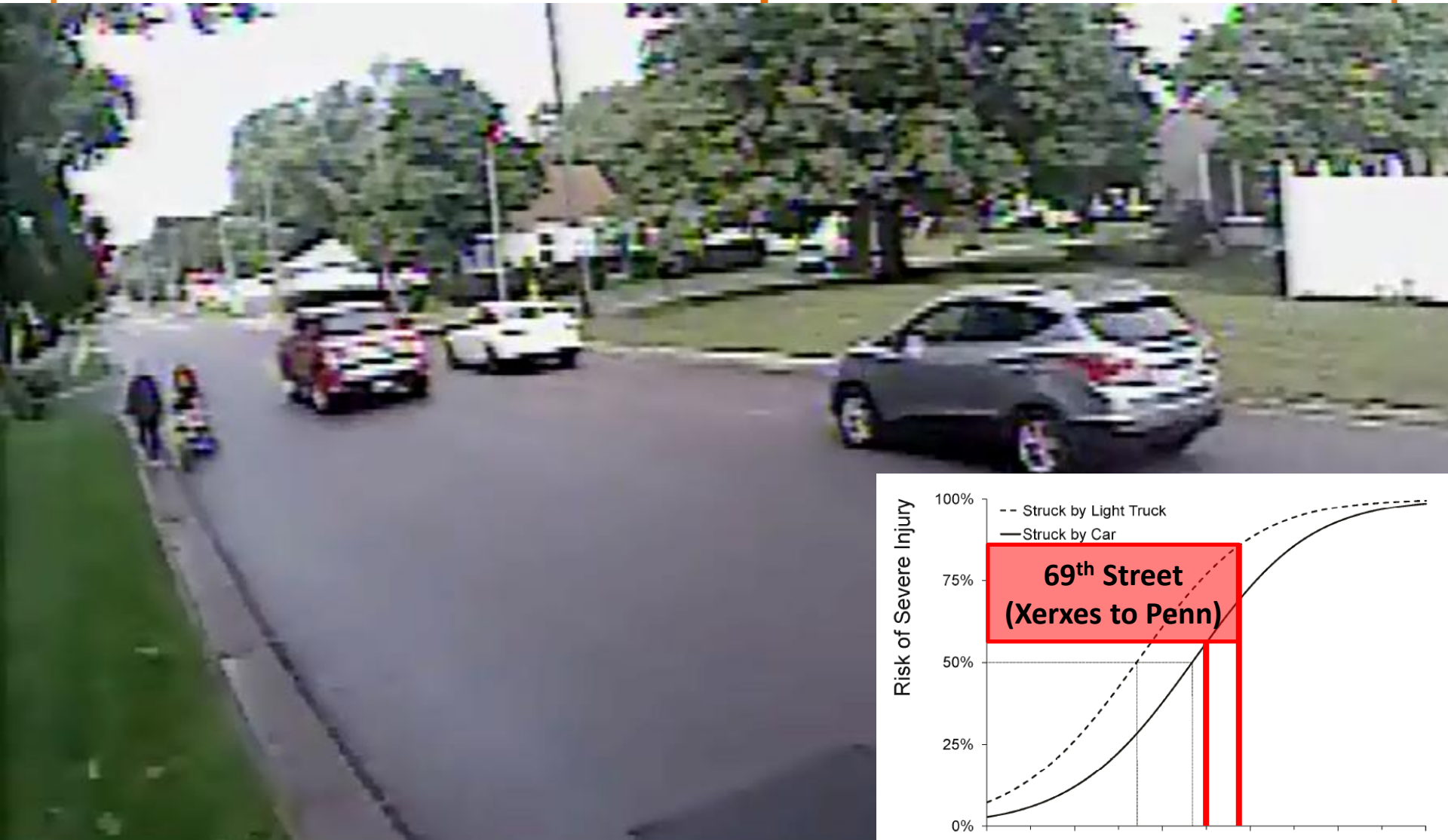
# Safe Speeds



**STREET  
ETS:**

*better roads, better Richfield*

# Safe Speeds





# 69<sup>th</sup> Street Public Process

- Open House 8/24/2016
- Facebook posts
- “On-Street” Posters/flyers



# 69th St Design Alternatives

Alternative	Pedestrian	Bicycle	Parking impacts	Cost
10' Wide sidewalk on south side	✓	-	-	\$\$\$\$\$\$\$
10' Wide sidewalk with southern curb shifted north	✓	-	-	\$\$\$\$\$
10' On-Street shared use path- Painted edge line	✓	✓	✓	\$
10' On-Street shared use path- Painted edge line with tube delineators	✓	✓	✓	\$
10' On-Street shared use path- Curbed delineators	✓	✓	✓	\$

## Pilot Project



# Pedestrian Measures

The goal of the pedestrian network is to provide for safe, secure and efficient movement along and across the roadways. The following performance measures will be used to evaluate the pedestrian success of any alternative in addition to ADA criteria.

- ☐ **Speed of traffic (slower)**
- ☐ Number of Vehicles
- ☐ **Offset to traffic, (buffer zone)**
- ☐ **Crossing distances**
- ☐ Number of lanes to cross
- ☐ Median refuge
- ☐ Traffic controlled intersections
- ☐ Crosswalk visibility, (i.e., pavement markings, lighting, signage)
- ☐ Number of conflict points with vehicles and bicycles
- ☐ Minimize circuitous routing
- ☐ Shade
- ☐ Lighting



# Richfield Pedestrians





# 69th Street Pilot Project



# 69th Street Pilot Project



**SWEET  
STREETS:**

*better roads, better Richfield*

# 69<sup>th</sup> Street Public Process

- Direct communication to Open House participants
- Email communications
- On-line survey April 2017





# 69<sup>th</sup> Street Speed Study

**Initial Speeds:** 85% speed 35-38 mph (Posted 30)

**Striped Roadway:**

Westbound- 85% speed 35-36 mph

Eastbound- 85% speed 30-31 mph

**Pilot Project:**

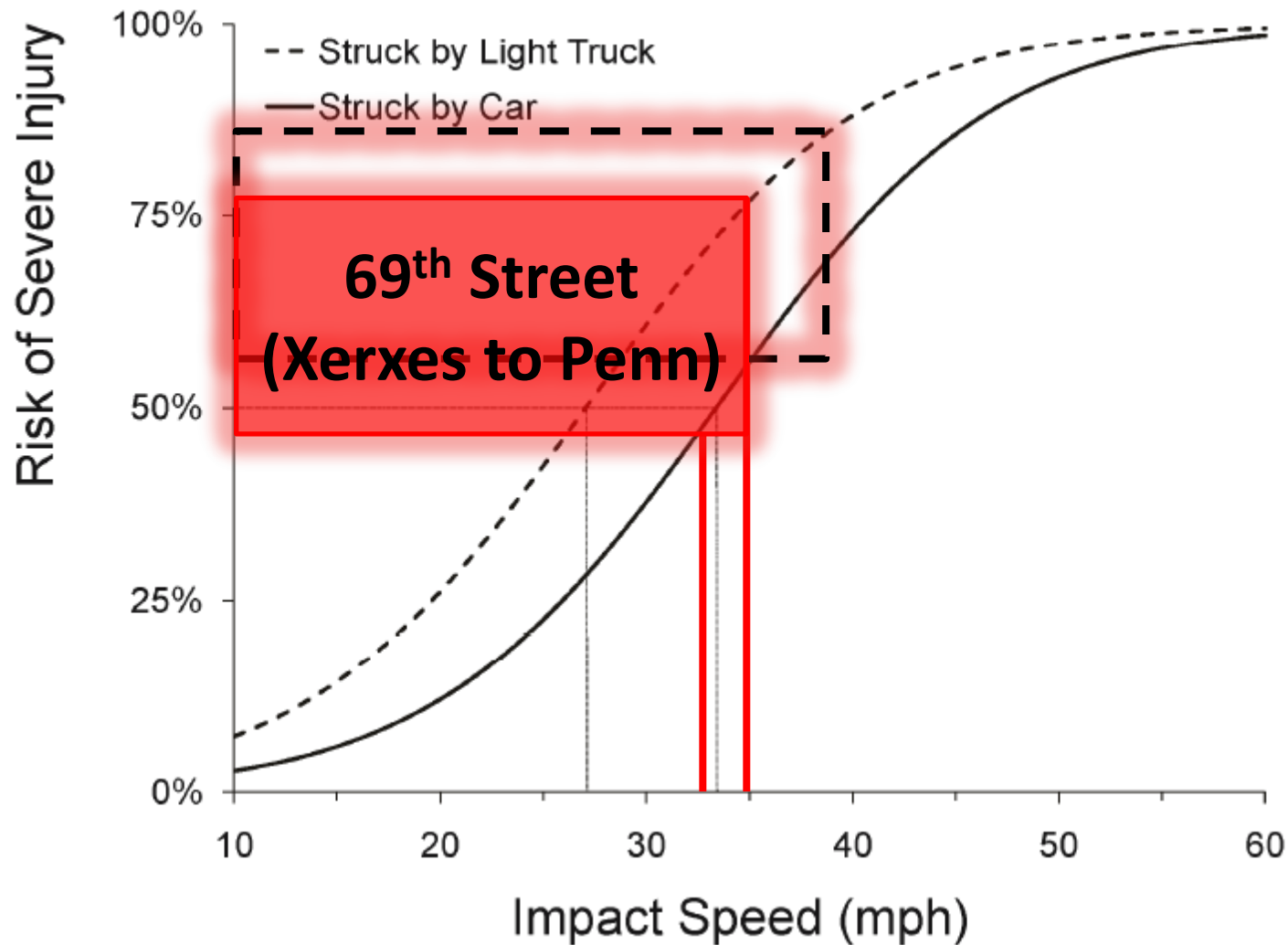
Westbound- 85% speed 33-35 mph\*

Eastbound- 85% speed 33-35 mph\*

\*66<sup>th</sup> St Detour traffic included



# Safe Speeds

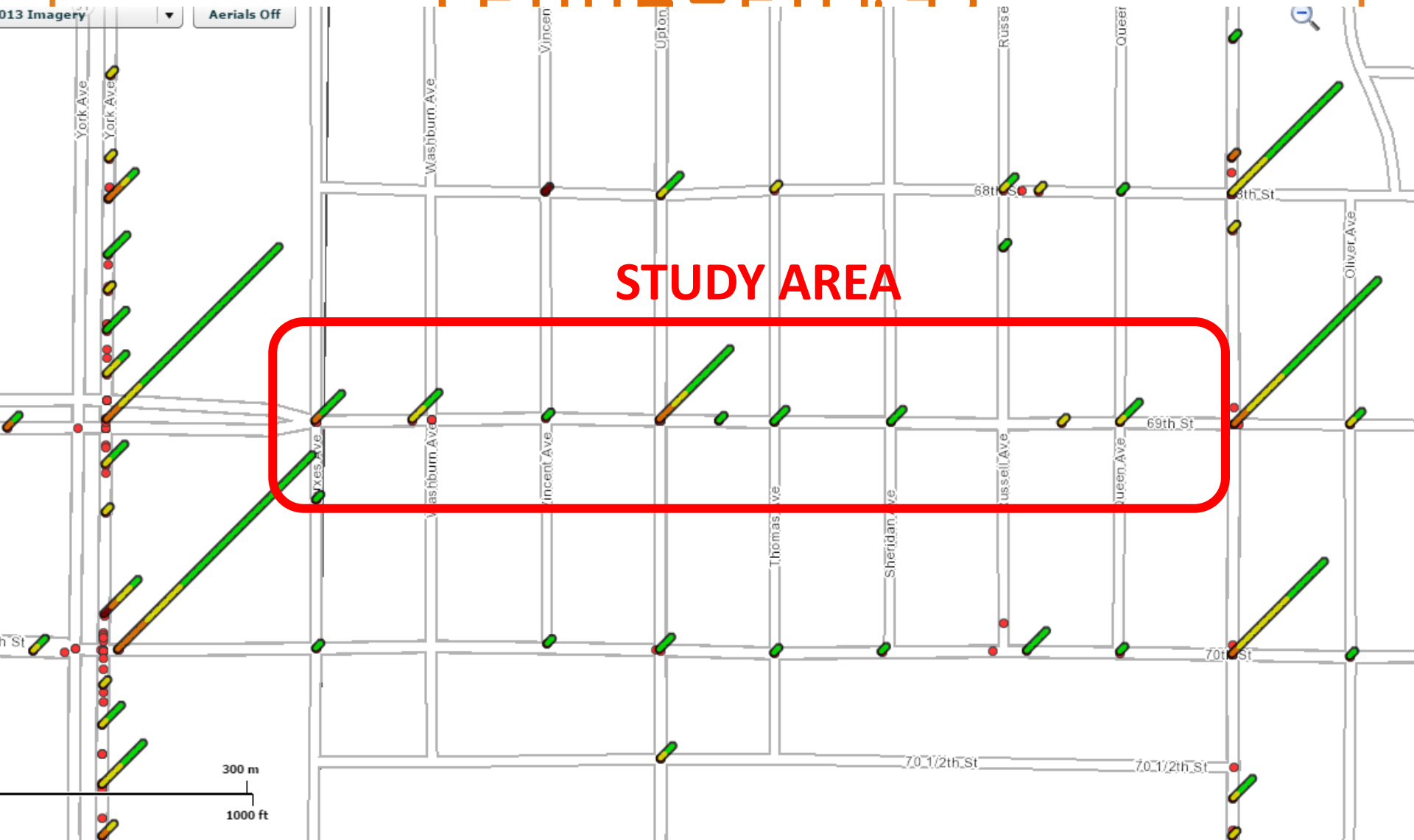


**STREET  
ETS:**

*better roads, better Richfield*

# 69<sup>th</sup> St Crash Data

(2006-2015)





# 69<sup>th</sup> St

## Pedestrian/Bicycle Counts

Date	Pedestrians per Day	Bicyclists per Day	Total
September 2016	52	56	108
June 2017	76	78	154
Change	+46%	+39%	+43%



# 69<sup>th</sup> Street Pilot Project

## Key Considerations

- Traffic near southern curb
- Driver confusion
- **Slower vehicle speeds**
- **Safer pedestrian space**
- **Shorter pedestrian crossings**
- Increased pedestrian and bicycle use



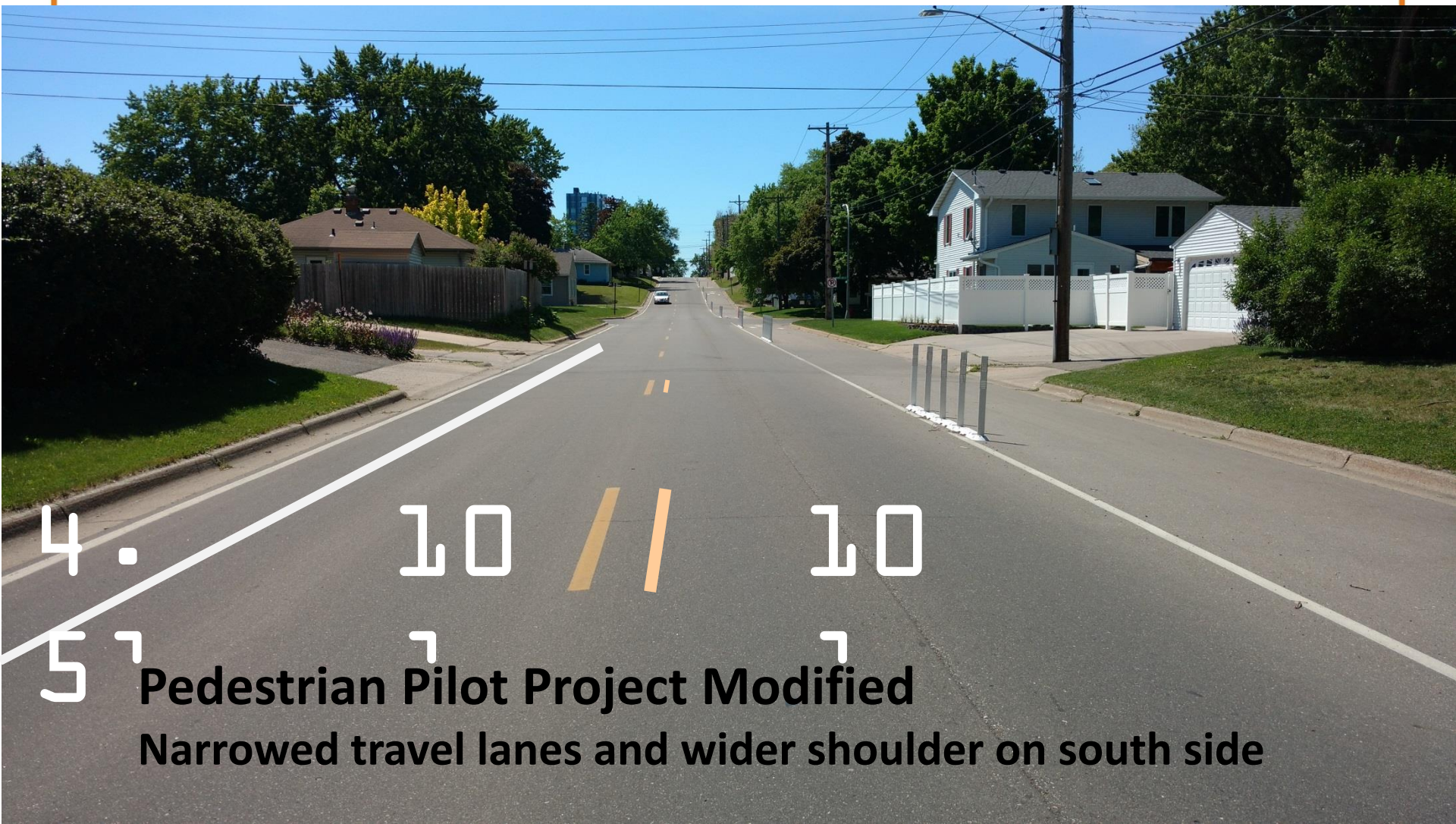
# 69<sup>th</sup> Street Pilot Project

## Transportation Commission Recommendation

- Develop a ***Permanent Solution*** for 69<sup>th</sup> Street
- Modify the vehicle lanes widths to better accommodate adjacent neighbors and eastbound bicyclists during the interim.



# 69<sup>th</sup> street Alternative







# SWEET STREETS:

*better roads, better Richfield*